

MODEM MADNESS

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OVERVIEW

We propose to construct a functioning modem that will convert ASCII characters into audio signals which are transmitted by a piezo buzzer. A microphone will record the signals and process them, recovering the encoded information.

PERIPHERALS

1. Piezo buzzer
2. Microphone

SOFTWARE DESIGN

We plan on using a grand loop structure. At the top of each loop, we will allow the user to input a string. The string's characters will then be converted to the corresponding frequency value, which will be output to the piezo buzzer via PWM. We will transmit one character at a time, and wait for the FFT signal processing to be complete before we send the next signal.

GOALS

The goal of this project is to accurately transmit and receive data at the fastest rate possible. This is an experiment designed to test the M0's signal processing capabilities.

GROUP RESPONSIBILITIES

Brian is going to be in charge of getting the FFT working as quickly and accurately as possible. Kyle will be in charge of converting characters to signals and outputting the signals to the buzzer.